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THE CURRENT FEDERAL RETIREMENT SYSTEM

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PREFACE

The objective of this paper is to present an analytical framework for thinking about the issues in the civil service retirement system. (CSRS). Developments in this pension system over the past few years have resulted in pressures for making major changes (or reforms) in the CSRS.

One development was the passage of the Social Security Amendments of 1983 which covered certain groups of Federal employees (principally those joining the Federal workforce after January 1, 1984) by social security. Such coverage suggests the need for a supplemental pension system, coordinated with social security, for those newly covered employees.

In addition, critics of the CSRS have claimed that it is too costly, too generous, underfinanced, and that it has an undesirable effect on the ability of the Federal Government to attract and retain competent and experienced employees. These criticisms have been accompanied by proposals by the administration and other groups for changing the current system. These criticisms of the current CSRS will affect the design of a pension for employees newly covered by social security.

The paper begins the discussion of an analytical framework by describing briefly the origin, history, and basic provisions of the current CSRS. This is followed by an analysis of the principal criticisms made of the current CSRS. Most actuarial assessments of the CSRS have concluded that it is more costly than pensions "typically" available in the private sector using the widely accepted entry age normal cost system. Whether this leads to the conclusion that the current system should be reduced or that the cost of the new

CRS-iv

system should be less than the current system is a difficult, and should be a deliberate, policy choice. This policy choice should be driven, not just by program cost, but by taking into account that while the value of Federal pension benefits is greater than the private sector, total compensation (including pay and other benefits) may have fallen behind. Beyond that, it is not clear that studies to date have adequately reflected recent changes in private pension and deferred compensation arrangements which have developed over the past few years. The General Accounting Office (GAO) and the Congressional Research Service (CRS) have studies under way which may shed additional light on this question.

The paper continues by grouping the specific analytical issues into three basic categories.

First, there is a discussion of workforce goals, designed to indicate how the choice of specific pension design features can induce greater employee retention or greater turnover. The central design feature at issue is the "portability" of benefits; that is, the extent to which employees moving to employment outside the Federal Government will be able to take along already "earned" pension rights. Since social security will be portable between Federal and private employment for newly covered employees, this change by itself will facilitate movement back and forth.

Second, the design of a new pension system should consider the goal of benefit adequacy. The concept of "replacement rates," that is, the proportion of final year's earnings "replaced" by retirement income, is used to analyze this issue. President Carter's Commission on Pension Policy proposed a national goal of retirement income sufficient to ensure that retirees suffer no loss in income standard-of-living upon retirement. Studies show that this goal is met by full-career employees covered by the current CSRS and by other full-career employees

CRS-v

in jobs with basic social security supplemented by pension coverage. In contrast to social security, the current CSRS does not provide higher replacement rates for lower income employees. An important policy decision will be how much, if any, of this social security "tilt" toward lower-income beneficiaries to retain in the design of the new CSRS.

The third major issue area is cost and financing of benefits. It is important to distinguish between these two. The analytical focus should be on the cost of total benefit obligations of the system rather than on ways of financing these benefits and on the differences between funded and unfunded liabilities. A trust fund, with assets invested in the Federal Government's own securities performs some important functions, but it does not ensure payment of benefits and does not constitute a prefunded system in the sense that private pension benefits can be prefunded. Investment of funds outside the Federal Government raises additional issues and is a possibility which should be carefully explored.

CONTENTS

PREFA	CE .	······ i	i
I.	HIS	TORY AND PROVISIONS	
11.	CRI	TICISMS OF THE CURRENT CIVIL SERVICE RETIREMENT SYSTEM	1
	A.	Major Criticism: Too Costly and Too Generous	1
	В.	Other Criticism: Reduced Efficiency of the Workforce 1	6
III.	CUR	RENT AND FUTURE ISSUES	1
	A.	Workforce Goals	2
	В.	Benefit Adequacy	2:
	c.	Costs and Financing	4(

I. HISTORY AND PROVISIONS

The Pendleton Act of 1883 marked the birth of the modern Federal Civil
Service. The Act sought to eliminate patronage and to attract and retain highly
qualified employees by basing the new classified appointments to Federal service
on open and competitive examinations. It also sought to provide continuity and
political neutrality in Federal service by awarding classified employees more
job security than normal private sector employment. The Act did not, however,
establish a retirement system for Federal civilian employees.

At the time Congress was considering the Pendleton Act, Federal government workers neither expected nor planned to retire. Few retirement systems existed and most employees worked all their lives in order to support themselves and their families. Many people considered it unfair to fire employees whose only failing was old age, and the removal of longtime civil servants frequently met with a hostile public outcry.

Given these circumstances, government supervisors were understandably reluctant to remove elderly employees from their staffs, particularly since many were Civil War veterans. Instead, an unofficial and unauthorized "public pension" plan emerged. Employees were essentially retired on the job--oldtimers were carried on the rolls and paid full salaries, but performed little or no work. This impromptu plan impaired the performance of government operations by blocking the flow of appointments and promotions required to recruit and retain capable employees. In addition, it was very expensive.

Beginning at the turn of the century, a variety of Civil Service pension proposals began to emerge, sponsored by representatives of labor, management, and the public. The first Federal pension bill was submitted to Congress in 1897, and in the next 23 years over 100 bills dealing with Federal pensions were introduced. The Civil Service Commission began recommending a retirement plan in its annual report in 1898, and retirement plans for civil servants were included in the Republican Party platform in 1912 and the Democratic Party platform in 1918.

Meanwhile, the Federal Civil Service was growing rapidly. Between 1883 and 1918, the Civil Service grew from 131,000 employees to 917,000 employees. With the end of World War I, there was increasing talk of cutting the Federal bureaucracy back to pre-war size. Faced with the need to reduce the size of the Federal payroll and to manage Federal personnel more efficiently, Congress passed the Civil Service Retirement Act in 1920.

The 1920 Act generally limited its coverage to permanent competitive employees in the executive branch of the Federal Government and to regular employees of the District of Columbia Government. During the first year after passage, approximately 330,000 employees were covered under the Civil Service Retirement System (CSRS).

The Act established three retirement ages for different types of employment—62, 65, and 70. In general, retirement became mandatory at the age prescribed, regardless of length of service. Employees separated before reaching retirement age could not receive annuity payments unless they had served at least 15 years. Employees with at least 15 years of service could retire at the specified ages, or at any age if they became totally disabled for useful and efficient service in their position or some other position to which they could have been assigned.

The Civil Service Retirement System was established as a defined benefit plan. In other words, the retirement benefit earned by an employee was based not on how much money he (together with his employer) had contributed to the system, but upon two other factors: the employee's average annual basic salary during his last 10 years of work, and the employee's length of service, up to a maximum of 30 years. The annuity could not be less than \$180 per year and could not exceed \$720 per year. To fund this benefit, the Act required a deduction of 2 1/2 percent from the salary of each employee, to be credited to a Civil Service Retirement Fund. The Secretary of the Treasury was authorized to invest any Civil Service Retirement Trust Fund money not immediately needed for payment of benefits in interest-bearing securities of the United States. The interest from such investments became part of the fund.

The 1920 Act contained no provisions for optional retirement, no survivor benefits, and no protections for employees who were involuntarily separated through no fault of their own. The pensions provided were far from generous. Strict eligibility requirements and small pensions meant employee contributions more than covered the demands on CSRS funds during the first decade of the plan. The Government, in fact, did not contribute any money at all to the CSRS Fund until 1928.

The retirement system created by the 1920 Act was designed primarily as a management tool. The law provided for only two types of retirement, mandatory and disability. Mandatory retirement for most employees was at age 70, unless continuance in service was authorized by the employee's supervisor. This provision applied to all workers, even those who lacked sufficient years of service to qualify for an annuity. An application for disability retirement could be initiated either by the employee or by the employer.

The initial objectives of CSRS, however, were soon modified by changing economic conditions and new Government policies. The Great Depression exposed the vulnerability of all workers to shifts in the economic climate, and the New Deal expanded the Government's role in providing and promoting economic security for workers and their families. The Government began to add additional benefits to CSRS and to place additional employees under the plan. Coverage was expanded from 331,000 workers in 1920 to over 2 million workers in 1942. Optional retirement, survivor benefits, and protections for involuntarily separated workers were all added to the system.

Events of the 1940s also made retirement benefits a more prominent part of compensation for employees in commercial and industrial enterprises. During this time pension coverage for employees of State governments also was expanding, and by 1947 every State had a retirement system for most categories of State employees.

In 1942, the Internal Revenue Service ruled that employer contributions to qualified pension plans could be deducted from gross income as an ordinary business expense. At the same time, Government wage controls imposed during World War II prompted employers to offer retirement benefits as a means of retaining and compensating workers for increased production efforts without contributing to inflation. In 1947, the Supreme Court upheld a National Labor Relations Board ruling that employees have a legal obligation to bargain in good faith over the terms of pension plans. This decision, coupled with the steel industry 's fact-finding board ruling in 1949 that pensions were an appropriate responsibility of industry, led to a rapid increase in the number of pension plans.

The 1930s and 1940s marked the emergence of a second generation of CSRS objectives: the maintenance of income to employees. The concept of retirement benefits as an indirect or deferred form of compensation slowly joined the

concept of retirement benefits as a management tool. A retirement pension became viewed as a right earned through past service. Workers were held to be entitled to an income sufficient to live in dignity upon completion of a full career.

In the years following World War II, additional changes were made to CSRS. A more generous formula for computing annuities was established, minimum benefit levels were set to match those established by social security, survivor benefits were improved, most Government employees not already covered by other Federal pension plans were brought under CSRS, and those still excluded (mostly temporary and intermittent workers) became covered by social security. Beginning in 1962, automatic cost-of-living adjustments were added to CSRS.

As various new benefits were added to the Civil Service Retirement System and as the system began covering more and more retirees and survivors, new income to the CSRS Trust Fund was needed to finance benefits. Beginning in 1928, Government appropriations were added to employee contributions to ensure that adequate assets existed in the CSRS Trust Fund to meet the growing financial demands placed on the system. Periodically, it became necessary to increase the revenue flowing into the fund to assure its continuing ability to meet CSRS obligations. Additional revenue was provided by increasing employee contributions and government payments through existing sources, and by establishing new sources of income to the fund's account.

The current financing system began in 1969, with the passage of P.L. 91-93. Under the provisions of P.L. 91-93, CSRS income derives from four main sources:

1. Employee contributions. Employees covered by CSRS contribute 7 percent of their basic pay through payroll deductions. (Congressional employees and hazardous duty employees contribute 7 1/2 percent, Members of Congress contribute

8 percent, and in return receive more generous benefits). These deductions are compulsory for most Federal workers; they are optional for Members of Congress and congressional employees;

- 2. Matching contributions by employing agencies;
- 3. Interest on trust fund assets; and
- 4. Direct appropriations from the U.S. Treasury to fund additional liabilities resulting from wage increases; extension of coverage to previously uncovered employees; new or liberalized benefits, except COLAs; and credit granted under CSRS for military service. An amount equal to the interest on the "unfunded liability" (which will be discussed later) is also transferred from the Treasury to the Trust Fund.

The current financing system ensures that annual trust fund income in a given year always will exceed annual fund outlays that year—that the pay—as—you go system will handle immediate needs each year. (As the discussion of unfunded liability will show, the assurance that each year's trust fund revenue will exceed its outlays does not mean that the plan's liabilities are "funded" in an actuarial sense. Because P.L. 91-93 authorizes the automatic transfer of funds from the Treasury to the CSRS Trust Fund to cover the last two cate—gories of revenue, an annual appropriation by Congress is not required, except to approve the matching contribution of each Federal agency contained in that Agency's budget.

The current benefit structure of CSRS is as follows: Employees become vested in the system after five years of covered employment. Workers covered by CSRS are eligible for an unreduced nondisability pension at age 55 with 30 years of service, at age 60 with 20 years of service, or at age 62 with 5 years of service (eligibility requirements and benefit levels for law enforcement officers, firefighters, air traffic controllers, and Members of Congress and

congressional employees are more liberal than the general provisions). Employees whose jobs are abolished or whose agencies are undergoing a major reorganization or reduction-in-force (RIF) are eligible for involuntary retirement at
any age with 25 years of service or at age 50 with 20 years of service, but benefits are reduced by 2 percent for each year the retiree is under age 55 at the
time of his or her retirement.

Pensions are computed as a percentage of average annual salary during the highest three consecutive years of earnings (High-3). Employees earn 1.5 percent of their High-3 average annual salary for each of their first five years of service, plus 1.75 percent of their High-3 average salary for each of their next five years of service, plus 2 percent of their High-3 salary for each year of service thereafter. The total benefit may not exceed 80 percent of the retiree's High-3 average annual pay; this ceiling is reached after about 42 years of service.

CSRS provides disability pensions to vested employees who are unable to continue working due to disease or injury and who are not qualified for assignment to any vacant position in the same agency at the same pay scale and grade. CSRS also provides automatic survivor benefits for survivors of employees with at least 18 months of service. Benefits for survivors of retirees are automatically provided unless the retiree elects not to have such coverage at the time of his retirement; the selection of survivor benefits results in a reduced monthly annuity.

Retired pay and survivor annuities are protected against inflation. The Federal Statute (5 USC 8340) requires that each March a cost-of-living adjustment (COLA) equal to the increase in the Consumer Price Index (CPI) over the previous calendar year be applied to the annuities of Civil Service retirees and their survivors. In 1982, however, Congress suspended standing laws pertaining to

COLAs in pensions and survivor annuities for all Federal retirees for Fiscal years 1983, 1984, 1985. The Omnibus Reconciliation Act of 1982 (P.L. 97-253) provides that, during these years, COLAs will be effective one month later each year (i.e., April 1983, May 1984 and June 1985), and that non-disabled retirees under age 62 will receive a reduced COLA. Pending legislation would create a new measuring period with COLAs applied in December of each year.

CSRS benefits are taxable as income after the beneficiary has received monthly payments equal to the amount withheld from the employee's paycheck (this portion of the benefit was taxed when it was originally earned). Benefits generally become taxable after about 14 months.

Employees covered by CSRS are not currently covered by social security, and do not pay taxes into the social security Old Age and Survivors Insurance or Disability Insurance trust funds. Since the beginning of 1983, Federal employees have been paying taxes into the Health Insurance Trust Fund and earning credits toward medicare coverage. The Social Security Amendments of 1983 (P.L. 98-21), however, do extend for the first time social security coverage to all new Federal employees, and selected categories of current workers; most current Federal workers remain exempt from such coverage. The Amendments require the following categories of Federal civilian employees to be covered by social security, in addition to CSRS, beginning on January 1, 1984:

- 1. All Federal employees hired on or after January 1, 1984, including those with previous periods of Federal service if the break in Federal service exceeds 365 days;
- 2. Congressional employees on the same basis as other Federal employees, as well as current congressional employees who are not participating in the Civil Service Retirement System on December 31, 1983;
 - 3. The Vice President and Members of Congress; and

4. Most Executive Level and Senior Executive Service political appoint-

The Social Security Amendments of 1983 also provide that retirees who become eligible for both social security benefits and a government pension after 1985 will be subject to a reduction in their social security benefits, phased in over a five year period. Federal civilian employees exempted from this reduction include current Federal workers and Members of Congress who become covered by social security because of the Act, and workers with 30 years of of social security covered employment; those with 25 to 29 years of covered work will have their social security benefit reduced by a smaller percentage.

At the time the Social Security Amendments were passed in March 1983, no new Civil Service Retirement System had been designed to supplement social security for newly-covered employees. Without the passage of additional legislation, beginning January 1, 1984, Federal personnel affected by the Social Security Amendments would have begun paying 7 percent of their salary into the social security system in addition to the 7 to 8 percent they already contribute to CSRS. This formula would have placed an excessive burden on these Fedderal employees, and could have created problems in the recruiting and retention of personnel. 1/

Legislation passed in November 1983 eliminated this problem. Title II of the Federal Physicians Comparability Allowance Amendments of 1983 (P.L. 98-168), known as the Federal Employee's Retirement Contribution Temporary Adjustment Act of 1983, contains language governing treatment of Civil Service employees newly

^{1/} U.S. Congress. House. Committee on Post Office and Civil Service and for the Senate Committee on Governmental Affairs. Effect of Requiring New Federal Employees to be Temporarily Covered by both-Social Security and Civil Service Retirement. U.S. Govt. Print. Off., Aug. 31, 1983. (GAO/OCG-83-1)

covered by social security until a modified CSRS incorporating social security coverage is enacted. In general, the Act requires that Civil Service employees brought under social security by the 1983 amendments make the full social security contribution, but have only 1.3 percent of their salaries withheld for the Civil Service Retirement System over the next two years. Unless these employees deposit the difference between the amount withheld at the 1.3 percent rate and what would have been withheld at the 7 percent rate before they begin collecting their pension, however, the benefit earned under CSRS during the years in which they contributed only 1.3 percent of their salary will be offset by that portion of their social security benefit earned during that period.

Members of Congress and Executive Level and Senior Executive Service political appointees employed by the Government on or before December 31, 1983, may select their level of participation in the Civil Service Retirement System. They may choose not to participate at all in CSRS, in which case they will receive a refund of past contributions to CSRS and not receive any pension from that system; they may participate at the 1.3 percent rate, in which case they will receive a pension offset by their social security benefit unless they deposit what would have been withheld at the normal 7 or 8 percent rate; or they may participate at the full 7 or 8 percent rate, in which case they will receive both full social security and full CSRS benefits. If they elect to forfeit their right to CSRS benefits and receive a refund of their past contributions to CSRS, they may resume their participation at a later date, but will not receive credit for their years of service before they terminated coverage unless they first repay their contributions for those years, plus interest.

The Act also provides that any employee who first takes civilian office in the Government on or after January 1, 1984, who participates in CSRS, and who is affected by the Social Security Amendments of 1983 shall be subject to a new

Government pension system when one is established. In addition, any credit earned toward the existing CSRS by any employee who is participating in CSRS on or after January 1, 1984, and who is required to join the new CSRS will be creditable under the new CSRS.

II. CRITICISM OF THE CURRENT CSRS

Only a few years ago features of the Civil Service Retirement System were praised as a model for other pension systems. Recently, however, the CSRS has come under attack with critics pointing to different program deficiencies.

During the 1970s, criticisms of CSRS as well as many other government programs mounted. These were prompted by a combination of factors: (1) Public confidence in the Federal government was shaken during the 1970s as the nation struggled with a troubled economy, the end of the Vietnam War, and the trauma of Watergate. (2) Large Federal deficits focused increasing attention on the cost of Federal programs; (3) the cost of the CSRS grew rapidly during this decade, causing some critics to assert that it had become overly generous; and (4) in combination with limits on Federal pay the CSRS made retirement especially attractive and hampered efficient government management of personnel.

Until recently, critics made another major complaint against the civil service retirement system. They objected to the exclusion of Federal workers from social security. They said it was inappropriate that even the top level managers of the social security system, and those who legislated it, were not subject to its rules.

After several years of study and discussion, the social security amendments of 1983 brought new Federal workers, as well as all House and Senate members and top level Executive branch appointees into social security. However, in bringing new Federal workers into social security, thus silencing one criticism leveled against it, Congress is left with the onerous job of

designing a new Federal pension system for newly-covered employees. During the debates over the Social Security Amendments of 1983, which brought Federal workers into social security, several legislators said that Congress intended to enact such a supplementary pension system. Senator Ted Stevens, Chairman of the Senate Subcommittee on Civil Service, Post Office and General Serevices, said, "Obviously a new pension system for Federal employees needs to be developed to coordinate with the social security system." 2 /

Congressman William Ford, Chairman of the House Committee on Post Office and Civil Service, stated that "...we believe that new Federal employees who become covered under social security should be provided retirement benefits comparable to those under the civil service retirement system." 3 /

In addition to designing a new system, the Congress still is faced with continued criticisms of the current system: critics claim that it costs too much and that it has adverse effects on the quality of the Federal workforce. Dealing with these two problems is made more difficult because possible solutions are intertwined with each other. For example, the designers of a new pension system face the following dilemma: they must decide to what extent to pattern the supplemental pension system after the current CSRS. If the new system replicates the current one, it may be subject to the same criticisms. On the other hand, if the new system is substantially less expensive than the CSRS, problems arise of co-workers receiving unequal benefits—some more, some less.

Issues of designing a new system will be developed later in this paper.

To help lay the foundation for this later discussion of issues, the nature of the criticisms against the current system are briefly identified here.

^{2/} Congressional Record, v. 129, Mar. 2, 1983. p. S4251.

^{3/} Ibid., p. H765.

A. Major Criticism: Too Costly and Too Generous

Most studies done to date agree that the current civil service retirees receive more costly benefits than their counterparts from the private sector.

In a recent study published by the Brookings Institution, Dr. Robert Hartman, now of the Congressional Budget Office, stated:

"The conclusion to be drawn...is inescapable. The CRS system is much more costly to the Federal government as employer (and to the taxpayer) than the combined social security and private pension package is to employers in the private sector." $\frac{4}{4}$

For the past two years the Office of Personnel Management has barraged the public with prese releases, Director's speeches, and other instruments to make the following point: The Civil Service Retirement system is too costly and should be cut. For example:

"...at one time, more generous benefits for Federal employees could be justified on the basis that Federal employees were underpaid compared to the private sector. However, several public and private studies now indicate strongly that Federal employees no longer trail the private sector in pay..." 5

The Administration, acting on the perception that CSRS is too generous, has proposed changes that would reduce the cost of the CSRS by 37 percent and increase employee payments to finance the system by 57 percent. 6 /

When critics voice the concern that the current CSRS is too costly, they may be referring to any one or a combination of the following points:

1. The absolute dollar amounts are large. Outlays for Civil

^{4/} Hartman, Robert W. Pay and Pensions for Federal Workers. The Brookings Institution, 1983. p. 71.

^{5/} Devine, Donald. Director of the Office of Personnel Management. Office of Personnel Management, press release. Feb. 22, 1983.

^{6/} U.S. Office Management and Budget. Fiscal Year 1984 Budget. Income Security Section. pp. 5-119.

Service retirement will exceed \$21 billion during the current fiscal year.

A recent OPM press release stated that the CSRS is the fourth largest entitlement program, ranking only behind OASDI, Medicare and Medicaid. The release went on to point out that it may exceed Medicaid and rise to third place and that CSRS outlays are greater than AFDC and food stamps combined. It is not clear why the CSRS is being compared to food stamps and AFDC rather than the Federal payroll, or the military payroll for that matter. But in a time of \$200 billion budget deficits, the size of all programs becomes an issue.

2. Growth has been rapid--both real and nominal. Program outlays were \$2.5 billion as recently as 1970, and increased by 607 percent in the next 12 years. This substantially exceeds the growth of GNP (213 percent) and growth in total budget expenditures (272 percent). Looking at "real" rates of growth (with the effects of inflation removed) also shows CSRS outlays increased more rapidly than GNP during this period. CSRS outlays increased by 208 percent compared to GNP at 36 percent and the entire budget at 61 percent in real terms.

Rapid rates of recent growth often leave the specter that growth may continue at such high levels in the future.

However, CSRS outlays are unlikely to grow faster than the economy in the future. The rapid growth of the past decade and a half resulted from (1) the maturing of the pension system as the large buildup of employees of the Great Depression years and World War II came onto the retirement rolls; (2) the effects of benefit improvements enacted after World War II, including full cost of living protection; and (3) the upward effects on Federal pay of rapid economic growth during the 1950s and 1960s which increased subsequent pension amounts. These conditions are unlikely to be repeated. In fact, based on current estimates, the CSRS outlays as a percent of GNP would decline over the next years, from 0.66 percent in 1983 to 0.60 percent in 1988.

- 3. CSR costs are high relative to similar pension practices in the private sector. This point will be discussed in detail later in this paper.

 Studies to date almost unanimously favor the position that the CSRS does more than pension systems that provide benefits to similar employees in the private sector.
- 4. The unfunded liability keeps growing. Although not directly related to cost, OPM has characterized the CSRS's unfunded liability as representing a menace to the economic well-being of the nation. This colorful point also will be discussed in greater detail in later sections. Unfunded liability sounds like a straightforward concept, but it is not. It is a complex actuarial concept that only those in that fraternity completely understand; and they may disagree on its implications and measurement. This paper maintains that it will be more productive to concentrate on the total size of the obligation or liability incurred by the CSRS than to focus on the question of what share of this total obligation to label "funded" as opposed to "unfunded." 7 /

B. Other Criticisms: Reduced Efficiency of the Workforce

A different group of CSRS critics maintain that the retirement system reduces the efficiency of the Federal workforce. Experts agree that the type of pension system does affect workforce type whether in the private or public sector. In the private sector it is a common practice to design a comprehensive compensation package of wages, fringe benefits and pension rights, that aims to

^{7/} Munnell. Alicia. The Economics of Private Pensions. Discusses funded and unfunded liabilities and demonstrates that given a particular size of obligations, different actuarial methods will yield different proportions classified as funded (as opposed to unfunded). Brookings Institution, 1982. pp. 150-154.

yield a desired kind of workforce. 8 /

The current CSRS has been criticized because the retirement system and the way it interacts with the Federal pay system tend to restrict mobility of workers into and out of the government, as well as to induce the highest level government managers to leave government service as soon as they are eligible to begin drawing their pensions—often during their most productive years.

An employee with 15 to 20 years of work for the Federal government faces the likelihood of severe financial loss if he leaves Federal government before becoming eligible for a pension. If he leaves, he is allowed to withdraw his own contributions, but he receives no interest and no part of the matching sums paid for his pension by his employer, the Federal government. At age 50 after 20 years, an employee's own contributions would amount to only about one-third of the total benefits accrued by him.

Another alternative upon moving to other employment outside the government is to leave the contributions in the system and to begin drawing an annuity upon eligibility. This would be at age 60 with 20 years service and at age 62 with more than 5 years of service but less than 20 years. In either case, the amount of initial benefit would be determined by salaries earned at the time the Federal employment was ended, with no allowance for wage or price rises thereafter. Depending on the rate of inflation and the number of intervening years, the real value of the initial benefit might shrink dramatically. There are two way to avoid this loss: (1) Employees can wait to leave Federal employment until they can establish eligibility through involuntary early retirement or disability; or (2) employees can go back to work for the Federal government before retirement

^{8/} Rock, Milton. Handbook of Wage and Salary Administration. McGraw-Hill, 1972. p. 6-4.

to build up the salary base upon which benefits are calculated.

The current CSRS interacted with the Federal pay system to lose the Federal government many of its most experienced employees during recent years of high inflation. Many top-level government managers retired as soon as eligibility was reached; for many at the peak of their productive careers. In recent years retirement benefits have been fully indexed for inflation and more, (with what was called a "l percent kicker" and semi-annual adjustments) but Federal salaries have been held down and have fallen in real value. Thus, after a few years some top level civil servants who had retired were able to receive more in retirement benefits than they would have been paid in salary if they had continued working.

III. CURRENT AND FUTURE ISSUES

To summarize, Civil service retirement looms as a major issue for the Congress for two reasons: (1) recent criticisms leveled at the cost, generosity, and other features of the current system, and (2) the need to design a supplemental pension system for Federal workers recently covered by social security. This includes not only all new Federal workers, but some current workers—including Members of Congress, and at their choice, congressional staffs.

The remainder of this paper will discuss in more detail and attempt to provide a simple structure for thinking about issues in civil service retirement—as they affect the current system, the design of a new system, and as the interaction of the two. This discussion of issues will be organized around three themes: (1) workforce goals, (2) adequacy and equity of benefits and (3) costs and financing.

Most Federal programs, and civil service retirement is no exception, have more than one goal. The goals of civil service retirement are not unique to it, but characterize other retirement income systems as well. Nor are these newly discovered goals. Proponents of social insurance in general, and of a pension system for civil servants, discussed the different objectives during debates on both subjects early in this century. The basic arguments have not changed much since then, although at different times different goals have received emphasis. The objectives of civil service retirement have been, first, to support the desired type of workforce by either making it easier or more difficult to move from Federal to non-Federal employment; second, to meet the goals of adequate

and equitable income for retired persons; and third, to do so at a cost that balances the interests of those receiving benefits to taxpayers paying the costs.

A. Workforce Goals

In managing an organization's workforce, specific organizational policy is directed to inducing or reducing employee turnover. This question cuts both ways. In the first place, organizations (public or private) incur substantial training costs whenever they hire new employees. These costs should be amortized over the productive years of employment, and the organization suffers an economic loss if the employees leave during their productive years. Thus, it is in the organization's interest to design compensation packages (including deferred compensation or pensions) to induce employees not to seek other employment. On the other hand, it is in the interest of some types of employers to be able to have employees leave at relatively young ages. Examples include the military and police and firefighters. As the military puts it, they have a need for a work force with sufficient "youth and vigor." The deferred compensation package designed to encourage rapid turnover will look much different from one designed to encourage experienced workers to stay on the job. In the military, for example, the pension benefits (referred to as "retired pay" in the Federal laws) are not vested for 20 years. People who leave the military with fewer than 20 years of service get nothing from the pension system. However, after 20 years, the employee not only vests, but is eligible to start drawing benefits immediately upon ending his employment with the military. Thus, a person with 20 years of military service, regardless of age, can retire and begin receiving benefits (at 20 years the benefits will be one-half the previous base pay.) The average age for enlisted men to begin receiving retirement benefits is 39 and for officers is 43.

III. CURRENT AND FUTURE ISSUES

To summarize, Civil service retirement looms as a major issue for the Congress for two reasons: (1) recent criticisms leveled at the cost, generosity, and other features of the current system, and (2) the need to design a supplemental pension system for Federal workers recently covered by social security. This includes not only all new Federal workers, but some current workers—including Members of Congress, and at their choice, congressional staffs.

The remainder of this paper will discuss in more detail and attempt to provide a simple structure for thinking about issues in civil service retirement—as they affect the current system, the design of a new system, and as the interaction of the two. This discussion of issues will be organized around three themes: (1) workforce goals, (2) adequacy and equity of benefits and (3) costs and financing.

Most Federal programs, and civil service retirement is no exception, have more than one goal. The goals of civil service retirement are not unique to it, but characterize other retirement income systems as well. Nor are these newly discovered goals. Proponents of social insurance in general, and of a pension system for civil servants, discussed the different objectives during debates on both subjects early in this century. The basic arguments have not changed much since then, although at different times different goals have received emphasis. The objectives of civil service retirement have been, first, to support the desired type of workforce by either making it easier or more difficult to move from Federal to non-Federal employment; second, to meet the goals of adequate

participating in the multi-employer plan. However, since their value is based on salary level (in addition to years of service), price inflation after leaving a job erodes the value of initial pension benefits. Civil service retirement benefits are portable among government agencies, but not between government employment and employment outside the Federal government.

A second feature of pensions that can influence workforce behavior is their "accrual rate" -- the rate, expressed as a percent of pay, at which benefits are earned. Just as employees receive specified amounts of cash income, so also they receive specified amounts of non-cash deferred compensation. And as the amounts of cash income differ from company to company, so also do the amounts of deferred compensation. Furthermore, it is possible for deferred compensation to be earned at different rates depending on how long employees have been with the organization. The way this usually works is to multiply the accrual rate times the years of service, times salary (can be final salary, average of the highest three or more years, or an average over the years of work). These rates have a great effect on costs and replacement rates of pension systems. They also affect the workforce turnover, since some employers have larger accrual rates for longer periods of employment. A pension system whose benefit accrual rates vary directly with years of service, such as the CSRS, is called "backloaded." Federal workers have an accrual rate of 1.5 percent for the first 5 years of employment, 1.75 percent for the second 5 years and 2.0 percent for all employment over 10 years. A backloaded pension is thought to tie employees with lengthy service more tightly to the employer.

Features that provide strong financial incentives to stay with an employer have been called "golden handcuffs." This term has taken on a pejorative meaning in recent years as the civil service retirement system, along with government

Some rather arcane pension concepts describe the techniques used by pension planners to design a plan that meets the particular policy goals of an organization's workforce management policy. The most important of these concepts is "portability." "Portability" means different things to different people. Some like to equate it with social security where a worker can change jobs and continue to earn benefits under social security. In its technical sense, portability refers to the ability to transfer the present monetary value of an individual's vested pension benefits to a succeeding plan or an Individual Retirement Account (IRA). Emphasis is placed on the word "vested" because unless the participant has a vested right in the pension, there would be no credits to transfer (i.e., the terminating employee would forfeit any benefits that had been accrued.) The practice of portability between employer-sponsored plans is virtually nonexistent in the private sector. However, defined contribution plans (those whose benefits are determined by amounts contributed and interest earned) often offer a terminating employee the lump sum credited to his pension account upon terminating employment. Also, companies offering defined benefit plans "cash out" small vested benefits by offering terminating employees a lump sum reprsenting the present value of the future benefit. While amounts received can be "rolled over" (invested) tax free into an IRA and maintained on a tax deferred basis until withdrawn at retirement, company pension plans generally do not have provisions for accepting these amounts upon hiring the employee. It should be noted, however, that there are about 2,600 multi-employer pension plans operational in certain industries and/or geographic areas. A multi-employer plan is a collectively-bargained plan where many employers participate in the same plan. Many of these plans are large. Employees can change jobs and keep earning pension credits and service towards fulfilling the plan's vesting requirements providing that they continue working for another employer

continue working for pay. This goal raises questions of measurement and comparison; this goal also requires the examination of CSRS in a broader context that takes into account all the sources of income that are or should be available to retired workers, their dependents and their survivors.

A "three-legged stool" has become a common metaphor for visualizing a policy model of sources of retirement income in the United States. Social security makes up the first leg. From the beginning it was not intended to supply total retirement income, but be a base only. When he signed the Social Security Act in 1933, Franklin Roosevelt said, "

"We shall make the most orderly progress if we look upon Social Security as a development toward a goal rather than a finished product. We shall make the most lasting progress if we recognize that Social Security can furnish only a base upon which each one of our citizens may build his individual security through his own individual efforts." 9/

Individual savings of all kinds make up the second leg. These can take the form of savings accounts, financial or other investments, life insurance annuities, IRAs and similar programs, and a variety of other means. Pensions constitute the third leg.

Analysis of civil service retirement should begin with the broad policyoriented veiw rather than a program-oriented view, with program adequacy considered in the context of overall income sources to the retired, insofar as this is
possible. In other words, analysis of program adequacy should consist of more
than one leg of the stool. At the very least, the Federal pensions for employees newly covered by social security should combine the two in assessing benefit
adequacy.

The first issue to address is how to establish the proper level of adequacy.

^{9/} The Public Papers and Addresses of Franklin D. Roosevelt. Social Security Amendments. V. 8, 1941, p. 80.

In means-tested and social insurance income transfer programs a widely-used measure is the poverty level. One objective of these programs is to transfer relatively large amounts to those in poverty or near this level. Social security, while not a means-tested program, nonetheless has deliberate features of income distribution built into it, and has from the beginning. In fact, such redistributive effects define, in part, what social insurance is.

Thus, the social security benefit formula provides more for lower-income earners than it does for higher, as a percentage of total preretirement earnings.

The effects of this policy are seen by noting that the poverty rate among the elderly has declined over the past two decades until it now is no higher than for the population as a whole. But without the social security program, the percentage of the elderly in poverty would be 250 percent higher than it is to-day. 10/ The share of final earnings replaced by social security, the "replacement rate," is substantially higher for lower income than it is for higher income beneficiaries.

Pensions, on the other hand, do not typically use the poverty level as a measure of adequacy, or income redistribution from high to low income as a policy target. Instead, replacement rates have been widely accepted as a measure of pension benefit adequacy. Replacement rates are calculated by dividing the amount of pension benefit received upon retirement by the amount of earnings received just prior to retirement. The analysis in this paper will distinguish between "gross" replacement rates (before taxes and other expenses incurred as a result of working) and "net" replacement rates (after taxes and work expenses).

^{10/} U.S. Congress. House. Ways and Means Committee. Background material on Poverty. Committee Print, 98th Cong., 1 st Sess. U.S. Govt. Print. Off., Oct. 17, 1983. p. 107.

Net replacement rates are higher and offer a more accurate comparison of preand postretirement income standards of living.

In its 1981 report, President Carter's Commission on Pension Policy recommended the establishment of a national policy goal that the level of retirement income available to individuals be sufficient to maintain the same income standard of living they had while working. Such a policy would not be redistributive but would assume roughly the same distribution of net income (after taxes and work-related expenses) as exists among the working age population. Indeed, it does even more. It assumes the pensions can be designed to "integrate" with social security in such a way that the redistributive effects of social security can be offset. In other words, with an "integrated" pension, higher income workers will receive proportionately more in pension benefits than will lower income workers, just as lower income workers receive proportionately more from social security than higher income workers. The current civil service retirement system, not being "integrated with social security, is neutral with respect to its effects on workers with different income levels. Thus, all civil service retirees with the same number of years of service, regardless of their salary level, will receive the same proportion of their salaries, whether low or high, as a retirement benefit.

One of the most difficult issues in designing a new pension system for Federal employees covered by social security will be how to deal with the "tilt" in the social security formula. This "tilt" produces a higher replacement rate for lower earning workers than it does for higher earners. It works like this: to calculate social security benefits, an average is taken of an employee's entire earnings history covered by social security. (Each year of earnings is brought up to the present by increasing each year's amount by a factor which reflects changes in wage rates over time.) Once this average annual lifetime

earnings level is calculated, the actual monthly benefit amount is received by applying different factors to it. The calculations for the workers earning at the maximum level covered by social security (\$35,900) would be as follows:

90 % of the first \$ 254, equals \$ 229

32 % of the next \$ 1274, equals \$ 408

15 % of the remainder over ... \$ 1528, equals \$ 63

Thus, the monthly benefit equals \$ 700, for earnings at the social security earnings maximum, yielding a gross replacement rate of 23 percent. The distributional effect of the tilt is shown by comparing replacement rates for this maximum earner with the low-income and middle-income earner, for social security only, as shown in the following table:

	Low Income	Middle Income	Maximum Income
Gross replacement			
rate	47 %	35 %	23 %

Such distributive effects are inherent in the nature of social insurance programs. While it is true that the lower income workers pay social security taxes on the entire amount of their earnings in contrast to higher income workers, actuarial calculations indicate that the lower income workers still recieve a substantially higher "return" on their contributions than do the higher income workers. 11 /

The decision facing the Congress in designing a new system, as it faces all employers with a pension system supplementing social security (and this includes State and local governments as well as private employers) is what to do,

^{11/} U.S. Congress. House. Ways and Means Committee. Staff Data and Materials Related to Social Security Financing. Committee Print, 98th Cong., 1st Sess. U.S. Govt. Print. Off., Jan. 27, 1983. pp. 45-49.

if anything, about this income-redistributing tilt in social security.

There are three basic options: (1) Completely offset it. In other words, offset the pension benefit dollar for dollar with benefits from social security.

(2) Ignore it; do not take it into account at all. In other words, simply add the amount of any supplementary pension on top of social security. This would retain the effect of the social security tilt in final retirement income (social security plus pension benefits). (3) "Integrate" the pension with social security in such a way as to offset part of the tilt, but not all of it.

1. Completely offsetting social security. It is technically possible to design a supplemental pension system that, when combined with social security, would exactly replicate the current civil service retirement system. Some statements made at the time the 1983 social security amendments were being debated suggested this possibility for the Federal pension system to supplement social security for newly covered workers. The technical procedure would be simply to offset, dollar for dollar, any social security benefits in calculating the amount of the supplemental pension, with the objective of making the total amount equal to what would have been received if the current civil service retirement had continued in effect for new Federal workers. The effect of this would be that the lower paid Federal workers would receive very little of their total benefit from the new civil service retirement supplemental pension and almost all of their total benefit from social security. On the other hand, the highest paid Federal employees would receive most of their total benefit from the civil service retirement supplementary pension. The reason is that the current civil service retirement system has no tilt in its benefit formula, but returns pensions of equal amounts, relative to earnings, at all levels of earnings.

Internal Revenue Service rules governing private pensions do not permit a plan to fully offset social security benefits. Both employers and employees

receive income tax advantages from the deferred compensation in the form of pension benefits if the plan is "qualified," based on standards specified in the Internal Revenue Code. The IRS would not qualify a plan as eligible for the tax advantages if it were set up to offset completely the tilt features of the social security program. Of course, the new civil service pension does not necessarily have to meet the same "integration" standards as private pensions, but such a plan would be subject to criticism if it did not.

2. Add-on plans. At the other extreme, a pension plan could be designed so its benefits would simply be additive to social security. As in the current CSRS, the supplemental pension could pay a flat percent of final salary, varied only by length of career. Of course, if the new pension system were to maintain the cost of the current system, the amount of this supplemental pension by itself would have to be substantially smaller than the current CSRS; but when combined with social security the average benefit could be about the same. If this same cost as the current CSRS system were used, the effect would be for lower income workers to receive substantially more than workers at the same income in the current system, and for higher earning employees under the new system to receive smaller retirement benefits than comparably paid employees in the current retirement system.

This practice, while rare for salary-related plans in the private sector, is fairly common among state pension systems. 12 / Of 50 state systems, 28 have pure "add-on" plans. One reason for this different behavior is that many state plans were already in operation when the social security act was passed in 1935. Furthermore, according to a study by the General Accounting Office,

^{12/} National Association of State Retirement Administrators. Survey of State Retirement Systems. Sept. 30, 1982.

many state governments prefer this type of arrangement because it is easy to understand and explain to employees and taxpayers alike. 13 / Any of the other methods of coordinating pension benefits with social security can be interpreted by lower income workers as having something taken away from them. On the other hand, add-on plans reduce benefits of higher earners, compared to a plan like the CSRS.

3. Integrating social security with pensions. Integration is a technical term referring to procedures for designing pension plans to offset part of the effect of the social security benefit tilt on final combined retirement income (pension plus social security). There are different ways to do this, depending on how much of the social security tilt pensions designers want to offset and at what levels of income. 14 / For purposes of this paper, it is sufficient to note that integration permits the design of a pension system with replacement rates across the entire range of income levels falling between those resulting from pure offset plans and pure add-on plans.

Of the two principal bills considered to date for a supplementary pension, one is an add-on and one an integrated plan. Congressman Ehrlenborn has proposed a pure add-on plan. While this plan has not been costed out, it probably will be more costly than the current system. This bill includes a thrift plan along with its defined benefit add-on pension plan. Senator Stevens has proposed a defined contribution plan with step rate integration, also to be accompanied by a thrift plan. These thrift, or capital accumulation plans, fairly common in

^{13/} U.S. General Accounting Office. Federal Employee Demographic and Integration of State Retirement Plans with Social Security. CAO/FPCD-83-38, July 27, 1983.

^{14/} U.S. Library of Congress. Congressional Research Service. Integrated Pension Plans: An Analysis of Earnings Replacement. Typed report, by Ray Schmitt. Jan. 5, 1981. Washington, 1981.

the private sector, can take many forms. The most usual is for the employer to match at specified rates, voluntary contributions to retirement programs by employees. Private sector practice supports the intuitive notion that these would be used more by higher income workers to offset their likely loss of benefits compared to the current system under a pension system integrated with soccial security. 15 /

The discussion of benefit adequacy to this point has been general and abstract. As the debate proceeds, estimated replacement rates for specific design options can be used as one way of determining their effect and of choosing among them.

A computer-based model, developed at the Congressional Research Service (CRS), has been used to estimate replacement rates for different combinations of pension benefits, including the CSRS. This model is currently being updated to accommodate the many program changes over the past year, particularly in social security. Data used in the following analysis are slightly out-of-date, having been done about one year ago. Nonetheless, they will indicate the magnitudes involved and will demonstrate how such replacement rate data can be used in doing analysis of proposed Congressional options for designing a new, or for making changes in the current, retirement system.

A number of researchers have made estimates of the replacement rate necessary to maintain living standards in retirement. Most agree that retirees need less than 100 percent of gross earnings replacement to maintain their standard of living. While no precise earnings replacement objectives have been established as a matter of national policy, researchers generally agree that individuals need between 60 and 80 percent gross preretirement earnings to maintain

^{15/} Hay/Huggins. Noncash Compensation Comparison. Hay Assocaites. 1983.

preretirement living standards--with rates at the higher level more appropriate for lower income individuals.

Net earnings replacement rates permit a better comparison between preand postretirement income. Differences in tax liability before and after retirement and reduction of work-related expenses such as social security, payroll deductions, transportation, clothing and meals purchased away from home
are taken into consideration. In addition, differences in discretionary consumption and savings, and possible reductions in living expenses in later life
(resulting from lower home financing, educational expenses for children, and
health care), influence living standards.

The following tables provide some rough calculations of replacement rates for hypothetical workers receiving benefits from different pension systems, including civil service retirement. Since tax treatment and other expenses vary substantially before and after age 65, net replacement rates are shown. Replacement rates were calculated for both a "low income" worker (final salary of \$16,300 in 1982 dollars) and a high-income worker (final salary of \$53,900). Since social security has provisions for dependent spouses, replacement rates are shown for both single workers and workers with dependent spouses. These rates are for the year immediately after retirement and for the same workers 15 years later at age 80. The extent of cost-of-living indexation of benefits and tax treatment varies from program to program. Without cost-of-living protection, the value of benefits in real terms declines.

When the replacement rates are higher than 100 percent, the after-tax income of the retiree is actually greater than before retirement. This is true for lower income workers with dependent spouses because social security provides this extra amount for dependent spouses and social security enters into the picture in all programs (except civil service retirement). Social security by

itself (not shown here) does not reach the 100-percent level although it comes close for low-income workers with spouses. This underscores the notion that social security should not be looked upon as the sole source of retirement income.

Table 1. AFTER TAX REPLACEMENT RATES (AGE 65 WITH 40 YEARS OF WORK)

	Low earner		Higher earner	
	Single	Married	Single	Married
Civil service retirement				
(no social security)	94.6	82.5	118.7	98.1
Military retirement				
(includes social security)	106.3	127.8	89.6	92.0
Railroad retirement				
(includes social security-				
type benefit)	84.7	119.5	64.8	86.9
Social security plus	,			
private pension	102.4	117.2	94.4	92.0

Source: Financing Work-Related Entitlement Programs. Prepared for the Senate Committee on Budget, by the Congressional Research Service. The calculations are based on a common set of work histories and earnings records. They were patterned after salaries of Federal workers. The low-income worker had a final salary of of \$16,300 and the high earner a final salary of \$53,900. Civil Service retirement benefits are not taxed until the amount of employee contributions has been paid back. Ordinarily this occurs after 1 or 2 years. Thus, replacement rates shown here are higher than they would be 1 or 2 years hence. For economic and demographic assumptions, see pp. 52 and 477.

As Table 1. shows, the programs compared here provide very high replacement rates for individuals with long, consistent work histories. This analysis suggests that the pension and social insurance system provides adequate benefits (as adequacy is defined here) for those with long and consistent attachment to the work force, whether they have low or high income.

CSR-34

In general, the programs compared in these tables provide after-tax income replacement at a level fairly close to the level of income before retirement, whether high or low. Except for civil service retirement, the programs shown in Table 1. all include a combination of social security and another type of pension. For the combined systems, married couples receive substantially higher replacement rates as a result of social security's provision of benefits to dependent spouses based solely on the earnings record of the working spouse.

The effect of social security is also seen in the difference between highand low-income workers. Social security's benefit formula "tilt" shows up as
higher income replacement for the low-income workers, except for civil service
retirement, which has no social security component. High-income earners under
civil service retirement actually receive higher income replacement than do lowincome workers, because the difference in tax treatment makes a bigger difference between preretirement and postretirement earnings.

Of the examples considered here, military retirement and civil service retirement have their benefits fully indexed to changes in the cost of living.

Thus, 15 years after retirement, their gross benefits have maintained the same relationship to gross preretirement earnings as they had upon retirement. For the railroad retirement and private pensions, however, only the social security component is fully indexed. The private pension counterpart in railroad retirement and typical private pensions are not fully indexed, and thus over time the size of the retirement benefit in relation to preretirement income shrinks.

This reduction would amount to about one-fourth in 15 years for high-income railroad retirement and private pension beneficiaries. (See Table 2.) For lower income recipients, whose overall benefits include a relatively larger social security component, the shrinkage is less, about one-seventh for railroad retirement and one-fifth for private pensions. Military retirement and civil service

CRS-35

retirement suffer no diminution at all, since their benefits are fully indexed.

Table 2. AFTER-TAX REPLACEMENT RATE (SINGLE WORKER)

	At a	ge 65	At age 80		
	Low earner	High earner	Low earner	High earner	
Civil service retirement	94.6	118.7	82.7	88.8	
Military retirement (includes social security)	106.3	89.6	106.3	89.6	
Railroad retirement (includes social security- type benefit)	84.7	68.8	72.6	50.3	
Social security plus private pension	102.4	94.4	82.5	71.3	

Source: See Table 1, p. 33. The differences shown in the table for civil service retirement result from tax treatment. Civil service retirement benefits are taxable but are not taxed until the amount of employee contributions has been paid back, ordinarily a period of 1 or 2 years. Thus replacement rates shown are higher at age 65 than at age 80.

The difference early retirement provisions make in replacement rates is highlighted in Table 3. Civil service retirement and military retirement, both of which allow early retirement with unreduced benefits, show high replacement rates even with early retirement. (The hypothetical private pension plan included in these examples for comparison purposes permitted retirement at age 55, but with substantially reduced benefits. Since social security benefits do not start until at least age 62, at age 55 this shows only the effect of the private pension.) By age 80, the private pension and military retirement

CRS-36

recipients have begun receiving social security in addition to their other pension, thus boosting their overall replacement rates.

Table 3. AFTER-TAX REPLACEMENT RATES (AGE 55 WITH 30 YEARS OF WORK)

	Age	: 55	Age !	80
	Low	High earner	Low earner	High earner
Civil service retirement	68.3	83.6	60.2	60.8
Military retirement (includes social security at age 62)	65.0	74.0	104.6	95.6
Private pension plus social security	16.3	29.8	42.8	29.8

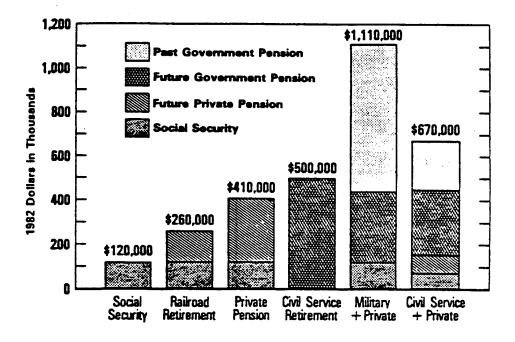
Source: See Table 1, p. 33.

In addition to giving some indication about the size of replacement rates, the previous analysis should serve to suggest the difficulty of this type of analysis. For example, replacement rates would seem to be adequate for those with 40 year work histories who retire at age 65. Shorter work histories and younger retirement ages, probably more typical now, would show lower replacement rates. In addition, the replacement rate for the CSRS is much higher at retirement than it is just a year or two later when the benefits begin being taxed. Replacement rate analysis can and should be done as one way to assess changes and options. The presentation here should be viewed only as an introduction to the topic, suggesting the significance of this type of analysis.

4. <u>Value of Benefits</u>. Replacement rate analysis is only one way to assess benefit adequacy. Another, not used as much, can look at the total discounted value of benefits earned at the time of retirement. Over a lifetime of work, an individual accrues rights to a stream of benefits to be received upon retirement and continuing on until death. This stream of benefits can be thought of as an asset whose value can be calculated. The asset value is the sum of the present value of the future stream of benefits, plus the compounded value of benefits already received from programs permitting early retirement.

The following chart displays these asset values for workers retiring at age 65 with 40 years of work and a final income of about \$42,600 in 1982 dollars (salary of the "middle" income Federal workers, GS-13, used in this example for all programs.)

VALUE OF BENEFIT AT AGE 65



Source: See Table 1, p. 33.

Benefits earned by a 40 year, 65 year old Federal government retiree are estimated at about \$500,000, only slightly higher than his counterpart in the private sector. These values are substantially above social security by itself at \$120,000-driving home the point once again that social security should not be thought of as sufficient retirement income by itself. The railroad retirement private pension component is less generous than the other programs considered for these medium-income workers. The value of the benefit to the hypothetical railroad retiree would be \$260,000.

The variation in total program benefits is seen most dramatically for programs permitting early retirement benefits. For the military retiree, benefits have been received for 20 years, compounding to yield an amount which when combined with the future annuity amount, is over \$1 million. Early retirement benefits in civil service retirement are added to future annuities in the same way, except that it would only be for 10 years. The combination of compounded payments to age 65 together with the present value of future benefits would total approximately \$670,000 for civil service. These past benefit payments add greatly to the overall asset values and explain why these two programs are more costly than the others, as will be discussed in the next section.

In summary, income adequacy as a goal raises difficult program design issues, particularly in comparing features of the new system with those of the current system. If the measure used is replacement rates, it will be difficult to design a pension program which meets private sector standards for IRS qualification and at the same time provides replacement rates to higher earning employees at the same level that the current system does without exceeding the cost of the present system. If the Congress decides on a pension system, which when combined with social security costs less than the current system, and if

the program is to be "integrated" with social security, then higher earnings employees under the new system could have substantially lower replacement rates than their current system counterparts.

C. COSTS AND FINANCING

deficits stretching as far as the eye can see, the cost of all Federal programs has fallen under close scrutiny. Section II above noted that the cost of the civil service retirement system has become a serious issue in recent years.

There are several reasons: (1) Most studies have concluded that the CSRS costs more than prevailing practice in the private sector; (2) Outlays for the CSRS have risen rapidly since 1970; (3) The absolute size of the program is relatively large and it falls in a budget category along with other entitlement programs that are considered to be relatively "uncontrollable" spending; (4) The size of the "unfunded liability" has been highlighted by Office of Personnel Management news releases and (5) Employees pay one-fifth of the cost of their pension, with the taxpayers paying the other four-fifths.

Accompanying this list of cost problems is a list of cost concepts nearly impenetrable to the layman. It is safe to predict that during the upcoming debate on civil service retirement different cost totals and concepts will confuse the issues.

An additional barrier to understanding emerges from the difficulty of distinguishing the issues of cost from those of financing. In other words, how much the system costs is a different question from determining how to pay its costs. When the concept of financing enters the picture, questions about meaning and effects of trust funds and the meaning and effects of unfunded liabilities, also enter.

The analysis in this paper refers to the cost of civil service retirement as the discounted value of benefits earned. This is a simple concept but because of the different ages of employees and different amounts of benefits earned at any particular time, agreement on a particular concept to measure the cost of a pension system is not clear cut. The cost concept emphasized in this paper is what actuaries call the "entry age normal cost" system. This methods starts with a group (cohort) of employees just starting work and calculates based on the rules of the current pension system, how much they will "earn" in total benefits until they all retire or otherwise leave the system, and until the last one dies. These earned benefits are discounted to the present using assumed rates of interest and this discounted value of benefits is compared to a similarly discounted value of the projected total wages and salaries paid to the same group of employees over their working years (with specific assumptions for how many become disabled, how many retire early, etc.) The resulting ratio (discounted benefits divided by discounted wages and salaries) is the cost of the benefits -- stated as a "percent of payroll." (These long run costs are best stated as a percent of payroll because absolute dollar figures, even with relatively modest rates of inflation, become so large far into the future that the frame of reference is lost.) Using this method, the entry age normal cost for the current civil service retirement system is 36.52 percent for 1982, (according to the most recent estimate of the Office of Personnel Management.)

This is the generally accepted costing method and is the one most used for valuing a pension system's long run cost. It is used by the Office of Personnel Management and other private and public evaluators of the CSRS. These long run costs are important because employees working today are earning rights for pension benefits that will become payable in future years.

Another important cost concept that is also used in CSRS analysis is the budget cost. In doing budget analysis, projections of costs are made for no more than 6 years into the future, a long time for most programs, but a very short time for pension programs, whose actuaries do estimates of costs 75 and more years into the future. These short run budget figures are also important, and it is well to keep in mind that for any paticular year they represent rights earned in previous years. While Congress has the legal authority to devalue these earned rights, based on past experience it is unlikely to do so. 16/
The practices seem to have been that changes in pension programs should be made only as they affect benefit rights earned in the future, whether the employment be in the public or private sector.

A final distinction is often made in talking about pension costs. Actuaries present data in the form of cost to the employer as opposed to the overall cost of the benefits rights earned. Thus, when the costs of the CSRS are displayed, the amount of the employee contributions is often subtracted to yield what is called the cost to the employer. For example, the cost the Government as employer of the CSRS is 35 percent minus 7 percent (employee contributions), leaving a figure of 28 percent.

The amount of employee contributions to require in a new pension system would be controversial, although the recent legislation (P.L. 98-168) may have helped to settle that issue. The significant point to make is that the amount of employee contributions has nothing to do with the amount of benefit rights that accrue from a defined benefit pension. This is true not just for civil service retirement but for social security and defined benefit private pension

^{16/} Financing Work-Related Entitlements. Legal Rights of Individual Under the Social Security Program and Federal Retirement Programs as contrasted with Private Sector Counterparts, by Kathleen S. Swendiman. p. 503.

systems as well. In fact, most private pensions require no employee contributions at all, but the benefit rights earned by employment are just as real. Furthermore, the military retirement system, similar to the CSRS in that the Federal Government is the employer in both cases, requires no employee contributions. This does not depreciate the value of the benefits earned in any way.

2. <u>Financing and Trust Funds</u>. A clear distinction should be drawn between the cost of a program and its financing. When the discussion turns from cost as the present value of benefits earned in the future (difficult concepts by themselves) to discussions of ways of financing this cost, additional difficult terminology and concepts come into play.

One reason is that pension funds are most often financed through trust funds. (The military retirement system, which previously had no trust fund, will be setting one up as a result of recent legislation.) There are two things to keep in mind about the CSRS trust fund: (1) It does not ensure the availability of funds to pay benefits at a particular level; and (2) benefits have to be paid from resources available in a particular year. Except for the possibility of affecting the national savings rate by its trust fund actions, which the civil service retirement trust fund does not do, the presence or absence of a trust fund for a Federal Government pension, has no real effect on the Government's ability or commitment to make benefit payments. In social security, as well as Federal pensions, commitments ultimately are backed up by the taxing authority of the United States Government, not assets in a trust fund.

Deciding on policy goals and designing a pension system to meet them may be impeded by public confusion and misunderstanding about the way we now pay for civil service retirement and other Federal pension and social insurance programs. There is a general, but mistaken, perception that the economic and budgetary effects of these Government trust funds are analogous to trust funds used to finance

pensions in the private sector. For private pension plans, accrued rights to benefits earned from years of work and earnings are legally enforceable rights, and the Employee Retirement Income Security Act (ERISA) has established a variety of requirements governing the accumulation and investment of reserves. Eventually, private plans should have sufficient funds to be set aside so that at the time of retirement the fund will be large enough to pay the benefits accrued; that is, they are to be "fully funded." Thus, benefits will not have to be paid out of current operating revenues.

Although similar in appearance, Federal Government trust funds do not and cannot in themselves ensure availability of funds to pay future entitlement benefits. Benefit payments for Federal pensions and social insurance programs have to be paid for in much the same way as other Federal expenditures. In this context, the payroll and other earmarked taxes are viewed as an overall source of revenue rather than a source of revenue for a particular purpose. Trust funds, for those programs that have them, function largely as a mechanism to ensure sufficient funds for making benefit payments on time without the need for annual appropriations.

While this analysis emphasizes the budgetary effects of financing Federal pensions and social insurance through trust funds, it is recognized that this emphasis ignores some features of and distinctions among trust funds that often weigh importantly in congressional policy concerning program financing. For example, a trust fund shortfall puts pressure on Congress to cut benefits. On the other hand, substantial social security trust fund balances in the past have made it easier for Congress to raise benefits, indeed, have exerted pressure (or the temptation) to raise benefits.

The social security trust fund, in contrast to the civil service retirement fund, receives almost all revenues from special earmarked payroll taxes

whose only purpose is to pay social security benefits. The special earmarking of these trust fund revenues may strengthen the political commitment to maintain payments as long as trust fund balances are positive.

In addition, while the present funding basis for civil service retirement may not fully reflect its budgetary effects, it may be desirable psychologically and, to a considerable extent, actuarially. It makes the public and the covered employees more aware of the long run costs of the system than if the Federal Government merely paid, each year, the excess of the outgo over the employee contributions.

All Federal trust fund assets consist of the Federal Government's own securities which are, in effect, IOUs the Government has written to itself. Under current law, benefits can be paid only if there are trust fund balance. However, regardless of the size of trust funds, benefit payments can be made only from funds available in a specific year--whether they come from taxes, other revenues, or money borrowed from the public. This is what is meant by a pay-as-you-go financing system: Benefits are paid by the current generation of workers and taxpayers to the current generation of retirees. Measured by economic and budgetary effects, Federal pension and social insurance programs, whether they have trust funds or not, are de facto pay-as-you-go systems.

The total size of the obligations for benefit payments does not depend on whether or not program benefits are paid through a trust fund. It depends instead on the eligibility and benefit rules set up in the program's authorizing legislation. For instance, as noted above, the entitlement to military retirement benefits is no more or less binding than the entitlement to civil service retirement benefits, although the military retirement system has no trust fund at all while the civil service retirement system has a relatively large and growing trust fund. The requirement to pay beneficiaries their legally specified

amount at the legally specified time does not depend on the existence or nonexistence of a trust fund. Further, the entitlement to benefits in both programs is established by legislation and can be changed for both programs by Congress.

In the civil service retirement and military retirement programs, the Federal Government is not only the payer of benefits, but the employer as well. Trust funds become even less significant when used in such programs. Military retirement will have no trust fund at all until 1985 and payments will simply be made each year from general fund appropriations. This procedure did not prevent the calculation of total benefit obligation—nearly one—half trillion dollars. If the military retirement system ceased enrolling new members today, payment of accrued entitlement benefits would have to be made, subject to subsequent changes in law, until the last beneficiary was removed from the rolls.

The civil service retirement system does have a trust fund, but calculation of the total amount of the Government's accrued obligation for civil service retirement is similar to that of military retirement. However, its financial arrangements are substantially different. Only part of the total obligation is "unfunded" in an actuarial sense, with the remainder being funded (on the books of the Federal Government) by assets held by the civil service retirement trust fund and by future earmarked employer and employee contributions. As long as the trust fund assets are invested in the Government's own securities, adding to these assets does not constitute budget outlays, and conversely does not prefund retirement benefits.

Any trust fund size or buildup has no effect by itself on Federal outlays or deficits now or in the future. These are determined by the benefit to which workers and retirees become entitled—the same as in the military retirement system. Measures taken by the Government as employer to prefund result in IOUs the Government writes to itself. The obligation to make payments follows from

the provisions of the benefit formula, not from trust fund balances. The civil service retirement and the military retirement program could be fully funded on the books of the Government without changing the size of Government outlays or the Federal deficit in any way.

The civil service retirement system financing procedures have confused many. A commonly held view is that the pensions should be fully paid for by employees and employers. However, as long as the Government as employer invests trust fund assets in its own securities, the idea of prefunding has little economic or budgetary meaning. Furthermore, in a pay-as-you-go system, increasing the amount of employee contributions would simply result in requiring Federal workers to pay more of the cost of benefits to retired employees rather than having these benefits paid by taxpayers in general.

3. The Fund and the Unfunded Liability. If the important analytical concept is the total value of the civil service benefit obligation accrued, and if this obligation could be prefunded only with Government IOUs to itself, why are some critics concerned about the "unfunded liability"? It follows from the previous analysis that whether the liability is funded or unfunded makes no real difference when the fund is built from sources that are internal to the Government. A brief explanation of the term, "unfunded liability" will be followed by a discussion of how the current CSRS financing (through its trust fund) works.

It has been asserted that CSRS's unfunded liability represents a menace to the entire economic well-being of the nation. Unfunded liability is defined as the difference between the projected future assets of the fund and its projected liabilities. It is argued that this unfunded liability in CSRS represents a growing, unmanageable, and unconscionable threat to future taxpayers.

The term, "unfunded liability" sounds ominous, and in the private sector high unfunded liabilities would constitute a significant threat to beneficiaries

as well as plan sponsors. However, the term refers to a complex actuarial concept that in this system is used strictly to regulate the flow of budget authority into the system's disbursing mechanism. Actually, a far more important concept is system "liabilities" both funded and unfunded, the measurement of which is rather sensitive to the assumptions and methods used to establish it. This paper maintains that it will be more productive to concentrate on the effect upon the total liability arising from the various operations of the CSRS and compare these effects to the various alternative operations that could take their place.

The civil service retirement system trust fund has grown over the years.

Sources of revenues to this trust fund are mainly internal to the Government,
as table 4 shows. During 1983 through 1992, total income to the trust fund is
projected at \$498 billion. Of this, 13 percent is from employee contributions,
28 percent from interest on trust fund assets, and 59 percent from other Government transfers. Only the 13 percent from employee contributions comes from outside the Government.

Changes made to CSRS financing in 1969 enabled the civil service retirement trust fund to grow rapidly during the 1970s, when trust funds financed by payroll taxes were having difficulty. In 1969, the Congress considered the issue of the unfunded liability of the civil service retirement system. Congress decided to make paper transfers (issue special notes or IOUs to itself) to the civil service retirement trust fund in sufficient amount to keep the fund growing. These transfers were for interest that would have been earned if the unfunded liability had been funded, amortization of certain unfunded liabilities, agency contributions, and interest on transferred assets. Interest on the unfunded liability and interest on assets have been growing, and along with them the trust fund. Congress also built up the trust fund by amortizing additions to the unfunded liabilities caused by new or liberalized benefits (except

cost-of-living adjustments), extension of coverage to previously uncovered employees, and increases in salaries on which benefits are computed. Employee and agency contributions were increased from 6.5 to 7 percent.

TABLE 4. INCOME TO THE CIVIL SERVICE RETIREMENT FUND (In billions of dollars)

Year	Em- ployee contri- butions	Agen- cy contri- butions	30-year amorti- zation pay- ments	Inter- est on un- funded liabili- ty	Mili- tary pay- ment	Invent- ment income	Total in- come
1983	4.7	4.7	5.1	9.8	1.5	9.7	35.5
1984	5.0	5.0	6.0	10.5	1.7	10.8	39.0
1985	5.4	.5.4	6.9	10.9	1.8	11.8	42.2
1986	5.8	5.8	7.7	11.2	1.9	12.7	45.1
1987	6.2	6.2	8.6	11.6	2.0	13.5	48.1
1988	6.6	6.6	9.5	12.0	2.1	14.3	51.1
1989	7.1	7.1	10.5	12.4	2.1	15.1	54.3
1990	7.5	7.5	11.5	12.8	2.2	16.0	57.5
1991	8.0	8.0	12.5	13.2	2.3	16.8	60.8
1992	8.4	8.4	13.5	3.6	2.4	17.7	64.0
Total .	64.7	64.7	91.8	118.0	20.0	138.4	497.6

Source: See Table 1, p. 33.

Table 5 shows the operations of the civil service retirement program from two perspectives: effect on the unified budget and effect on the trust fund.

TABLE 5. RECEIPTS AND EXPENDITURES FOR CIVIL SERVICE RETIREMENT--1983-92:
BUDGET PERSPECTIVE AND TRUST FUND PERSPECTIVE
(In billions of dollars)

	Assumptions
- -	II-B
Receipts and expenditures:	
Budget expenditures	325.6
Receipts	64.7
Excess of expenditures over receipts a/	260.9
Trust fund perspective:	
Income to the trust fund	497.4
Budget expenditures	325.6
Net increase in fund	171.8

 $[\]underline{a}/$ \$30 billion of this will come from Postal Service contributions. Source: See Table 1, p. 33.

Of the total benefit payments of \$325.6 billion during 1983-92, one-fifth or \$64.7 billion will come from employee contributions. The remaining \$260.9 billion will come from tax revenues or borrowing. During the same period, the trust fund financing mechanism will result in a net addition to the trust fund of \$172 billion.

In effect, the trust fund is owed by the Federal Government to itself.

The civil service retirement program affects the Federal budget deficit and the economy by the extent to which its outlays for benefit payments each year differ from employee contributions that year.

The size of the trust fund and the amount of the unfunded liability do not affect outlays or the budget deficit now or in the future if trust fund assets are invested in the Government's own securities. Eligibility requirements and benefit formulas, both established by statute, determine the extent of the Government's obligation to make payments.

Before ending this discussion of pension obligations and their funding, it should be noted that it is possible to think of other Government programs as establishing obligations for the future also. OPM press releases compare the unfunded liabilities of the civil service and military retirement to the national debt. One could just as easily compare the discounted present value of the food stamp program, or of Federally funded agricultural or medical research, or of military expenditures to the national debt or to anything else. Without putting too fine a point on it, pension and social insurance programs are not the only ones which imply future obligations. Even those who say the Federal Government is too large at present are not advocating its elimination, only its reduction. For example, the current administration has advocated reductions in overall Federal expenditures not to zero, but until they reach 19 percent of GNP. 17/

Nor can it be argued that the obligation for pensions and social insurance differs in kind from the obligations for other Government expenditures. There is a difference in degree, certainly, but as noted above, the Congress does have

^{17/} U.S. Office of Management and Budget. A Program for Economic Recovery. Feb. 18, 1981. p. 11.

the authority, if it chooses, to reduce social insurance and pension entitlements as well as other expenditures.

4. How to Settle on the Cost of a New System. The cost of the current civil service retirement system is, by conventional measures, around 35 percent of payroll, using the entry age normal cost system and dynamic assumptions. Based on this cost figure, the CSRS has been criticized as too expensive, as substantially more expensive than prevailing pension plans in the private sector. Against these assessments are rebutting arguments made by groups representing Federal employees during last year's debate on the Social Security Amendments of 1983 that the CSRS really only costs about 14 percent of payroll, that the Federal employers and employees each pay 7 percent of this, and that the system started having problems because the Federal Government did not pay its full share in the early days of the program. 18/

The President's budget for 1984 included proposals that would have reduced the cost of the CSRS from its current 35 percent down to 22 percent, and would have increased employee contributions until they were 11 percent (from the current 7 percent) which when combined with a matching 11 percent from employers would exactly fund the new reduced system.

What do we make of all this?

Without getting too much into the technical details another word needs to be added about the different kinds of actuarial costs. Actuaries talk about "dynamic" and "static" costs, in making their estimates. There is a big difference. The 35 percent entry-age normal cost figure is arrived at using "dynamic"

^{18/} Moe Biller. President of the American Postal Workers Union. Testimony before the House Subcommittee on Social Security of the Ways and Means Committee. Feb. 8, 1983.

assumptions, while the 14 percent entry-age normal cost relies on "static" assumptions. The big difference is that dynamic assumptions assume continued inflation and real wage growth while static assumptions do not. Intuitively, one would say that, of course, if inflation and wage growth add to pension costs they ought to be included. The bulk of actuarial opinion appears to favor this view. In fact, all of the large Federal systems, including social security, are valued using dynamic assumptions.

However, the issue is not so clear cut as it might seem to be. Until recently, the Federal system, contrasted with private and with State and local government pensions, have been fully and automatically protected against price inflation by having cost of living adjustments (COLA) tied to increases in the consumer price index (CPI). Private and State and local government pension systems do not have full and automatic COLAs even though most of them do make ad hoc adjustments to take account of inflation. The point is that the Federal systems are valued based on economic assumptions that include the effects of postretirement inflation, while others are not. And this is a large difference.

These points are technical, but bear importantly on the issues, because cutting back on the COLAs seems to be the way the Congress has seen to be most appropriate when reductions need to be made in Federal pension and social insurance programs. Technically, the Congress has not devalued already earned rights, because full and automatic adjustments to what are called post entitlement benefits are not earned until the benefits are increased.

Given all these difficulties in measurement, the Congress is still left with the question of deciding how much the new pension system should cost (and whether to deal implicitly or explicitly with whether the cost of the current system is excessive). The parameters would seem to be as follows:

1. To target the cost of the new pension system at about the same as

the current system--or 35 percent of payroll (dynamic assumptions). While it would not be exact, it becomes a fairly simple matter to devise the supplemental pension which, when combined with social security, would give about this cost. Many difficult questions of program design would still remain, depending on which of the system objectives goals were thought to be paramount.

2. To pattern the cost of the new CSR pension, when combined with social security, at approximately the cost of pensions in the private sector. This generally implies cutting back on Federal pension costs. This approach has a great deal of conceptual appeal but has formidable problems associated with measuring the cost of the "typical" private pension. In the first place, there is no such thing as typical private practice. There are over 500,000 pension plans in the United States and almost as many variations in them. Even if it were possible to isolate and agree on a set of typical provisions and value them, it is not clear that the values would be comparable unless they were valued by using a common set of economic assumptions and a common demographic data base. The recent proliferation of company sponsored capital acumulation plans (such as thrift plans, 401(k) plans, etc.) would make it even more difficult to ensure that all these costs are captured in the compari-(They are part of the retirement income package offered by many large corporations and, though not offered to Federal employees, should be considered in the value comparison.) The data base itself raises another problem. What set of private sector employers would it be appropriate to compare Federal employees to for purposes of this comparison? Some argue that it should be an average of all employers, large and small. Others argue that it should only be the larger employers because these are the ones the Federal government competes with for many types of employees and whose work environment is more nearly similar. It is assumed, although even this question has not been analyzed

conclusively, that pension benefits of some small employers are smaller than those of large private employers. If there is such a difference, difficult judgments will be required to settle the question.

If Congress were to peg the cost of the new system on prevailing pension practice in the private sector, the cost of the new system, when combined with social security would be substantially less than the current CSRS. (There would be many ways to reduce costs. Since the single most expensive feature of the current system is its full and automatic COLAs, the new system would be less expensive if it promised less than full and automatic COLAs.) Several State governments, facing funding problems in their pensions, have done this very thing. They have begun new pensions for future workers with lower costs than the existing system.

A serious concern, if this were to be done, is that, while the current CSRS is more expensive than private practice, Federal employees still have less "total compensation" than private workers, according to most studies. (OPM disagrees.) In his Brookings study, Robert Hartman argues that the pension sytem should be cut back to be more nearly comparable to private practice; that Federal salaries, particularly at the top levels be substantially increased to be more competitive. Mr. Hartman does not say what he would propose to do with the pension system in the absence of corresponding increases in salaries. The studies indicate that not only have Federal employees fallen behind in total compensation, they are also falling behind in the nonretirement aspect of total noncash compensation. Recent studies by the Congressional budget Office and Hay Associates have concluded that although Federal pensions are more costly than their private sector counterparts, recent cutbacks in health insurance benefits and other noncash benefits accompanied by a lower relative salary base, which directly affects most benefits, have pulled Federal workers about even with private sector employees in total noncash benefits even

though the Federal pensions, as a part of this total, are clearly more valuable.

Thus, before settling on a new pension plan for Federal workers covered by social security, its effect on total compensation should be examined, considering the effect that a cut in total compensation would have on the type and quality of employees.